Introduction

Thank you for purchasing the SVR430.

This user manual is for the SVR 430. The term "unit" always refers to the SVR 430. We recommend users who install and operate the unit to thoroughly read this manual and other reference manuals indicated in this manual before installation and operation.

This specification is subject to changes without prior notice to incorporate improvements in the performance of the unit.

Warranty and Disclaimer

The manufacturer does not assume any responsibilities related to the sales of the unit and does not endorse any third party to represent the manufacturer in any way. The warranty does not apply to malfunctions of the unit or its parts resulting from any accident, negligence, misuse, or misapplication. Also, the warranty does not include accessories or components that the manufacturer does not supply.

The warranty is valid for the one year from the date of purchase. However, the malfunctions listed below are not covered by the warranty even during the warranty period. Repair services for the malfunctions below will be available, but with applicable charges.

- If any malfunctions occur due to carelessness of the user;
- If a user disassembles or replaces any parts of the unit without permission;
- If any power other than the rated power is connected to the unit;
- If malfunctions occur due to natural disaster (fire, flood, tidal wave, etc.); or,
- If consumable parts/items are to be replaced;

The warranty specified herein is only for the units delivered.
Consumers will be charged for examination and repairs after the expiration of the warranty period (one year). A fee will be assessed for repairs or examination except within the scope of warranty specified herein even during the warranty period.
For out-of-warranty services, please contact your local vendor or service center.
Be sure to contact your local vendor for installation, repair, or replacement of the HDD. Any work by unauthorized personnel will not be covered by warranty.
Set the HDD to the Slave Mode for the jumper.

Warning Marks

Warnings and Cautions – the marks that give warning to users in this manual indicate different levels of importance. These marks are classified by the level and potentiality of risk.
It is strongly recommended for users to completely understand these marks before using the unit.

⚠ Warning	This warning is given where carrying out an instruction can cause serious risk of injury or death if the unit is not properly handled or operated. It indicates the operations requiring the highest attention in handling or operating the unit.
⚠ Caution	This warning is given where carrying out an instruction can cause risk of damage to the equipment or minor injury if the unit is not properly handled or operated.It indicates the operations requiring the proper attention in handling or operating the unit.
⚠ Notes	It provides references or information that may be helpful to users in operating the unit.

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Chapter 1

Safety Cautions

⚠ Warning

- Before Installation
  - On the rear of the unit, ensure accurate setting of supply voltage (AC 115V/AC230V) prior to power connection (See Paragraph 3.2.3 – Power Changeover Switch Setting).
  - Disconnect the power before installation.
  - Do not install the unit in humid locations. It may result in a risk of electrical shock or fire.
  - This unit must be properly grounded to prevent any risks of electrical shock.
- During Operation
  - Do not open the cover of the unit unless you are an authorized installer. It may result in a risk of electric shock.
  - Operate the unit within the allowable limits of temperature and humidity.
  - Do not connect several power lines to one outlet at the same time. It may result in a risk of fire.
  - Do not put heavy objects or containers of water or other liquid on the unit. It may result in failure of the unit.
  - Do not use near flammable gases or combustible dusts such as propane or gasoline. It may result in a risk of explosion or fire.
  - Do not touch power plug with wet hands. It may result in a risk of electrical shock.
  - Do not put your hands into the insertion hole of the hard rack. It may result in a risk of personal injury.
  - Random replacement of built-in lithium battery by other types of batteries may cause explosion. Thus, the battery shall be replaced by the same battery. And the used batteries shall be disposed carefully because they can cause environment pollutions.
  - Be careful to prevent any electrified materials from being absorbed through the ventilation grilles of the cooling fan.
  - Do not forcefully drag a power cord. It may result in a risk of electric shock or fire if a cord is damaged.
- Disassembly and Cleaning
  - Do not disassemble, repair, or alter the unit without authorization. It may result in a risk of failure, electrical shock, and personal injury.
  - Do not use water, thinners, or organic solvents for cleaning the unit surface. It may result in a risk of failure or electrical shock. For cleaning the unit surface, use a dry cloth.

⚠ Cautions

- During Installation
  - Install the unit such that a minimum of 15cm space exists between the ventilation grills of the cooling fan and any wall or surface in order to ensure smooth heat release.
  - Be sure to install the unit on the flat surface. An unsecured fall may result in a risk of failure or personal injury.
  - Keep away from the direct sunlight or excessive heats. It may result in a risk of distortion or failure of the unit.
  - If a camera is installed during the DVR recording, the images of other channels can be broken. We recommend to start recording after installation of a camera.

- During Installation
  - Be cautious not to shock or shake the unit while moving or operating the unit.
  - Do not move the unit while it is in use.
  - Do not apply strong force or throw the unit.
  - We recommend using SAMSUNG/Maxtor HDD(5400RPM / EIDE Type).If you add other HDDs, the system may cause abnormal operations. Thus, please contact your local vendor before adding a HDD. The unauthorized addition of HDD shall not be subject to the warranty.

FCC Compliance Statement

- Caution: Any changes or modifications in construction of this device which are not expressly approved the party responsible for compliance could void the user's authority to operate the equipment.

- NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications, Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Chapter 2

Overview

The Samsung SVR 430 is a digital video recorder designed to be used as the security device in small shops, convenience stores, banks, ATMs, etc. It is a stand-alone device, securing system performance and safety.
The Samsung SVR 430 saves video images on the HDD instead of on videotapes. Then, it can save quality images even for repetitive recording and facilitates data search as recording and playing video data in the digital file format.
Moreover, the Samsung SVR 430 is a user-oriented digital unit with high quality moving pictures and high capacity storage media. It has a variety of functions such as motion detects, PTZ (Pan, Tilt and Zoom) control, password setting, real-time voice data storage, and up to 1,000 event lists and log file storage. The SVR 430 also simultaneously and perfectly implements recording/playback and backup functions.

2.1 Features

Monitoring Screen

The Samsung SVR 430 implements high quality live images every channel and provides a wide range of monitoring screens.

- Real-Time Full Screen and Split Display Mode
- Auto Screen Display Switching(AUTO)
- Easy switching from a playback screen to a monitoring screen(LIVE/PB)
- Pan, Tilt, Digital Zoom, PIP (Picture in Picture)

Recording

The Samsung SVR 430 can save up to 120 frames per second. It also records events on an event list as well as provides the pre-event recording function that records images up to 5 seconds before the occurrence of events.

- Simultaneous execution of four functions: recording, playback, backup, and networking
- Convenient setting of recording resolution by channel.
- Up to 3 kinds of image quality setting available.
- Simple setting of the scope of motion detection.
- Recording setting up to 120 frames per seconds.(based on 320×240)
- Manual and reservation recording.
- Event recording using external alarms and motion detection function.
- Video loss detection.
- Creating event lists for external alarms and motion detection.
- Recording images up to 5 seconds before the occurrence of events.

Playback

Fast search and playback using digital Jog/Shuttle.

- Playback by time, date, and channel.
- Still image search.
- Convenient search using a remote control and Jog/Shuttle.
- Digital zoom on a playback screen.

Storage Media

Built-in HDD is the basic memory supply. Users can save images on removable HDD, CD–RW, or USB memory by options.

- Basic Memory Supply: Built-in HDD(Capacity: Option)
- A variety of backup media: Removable HDD, CD–RW, USB memory.

Network

The Samsung SVR 430 supports a wide range of networks such as LAN and xDSL. The user can also easily operate and manage main functions of the unit from a remote place using the exclusive PC viewer.

- Live image view from a remote location available (full or quad screen mode selectable).
- Search and playback by time or event from a remote location.
- 10Mbps Ethernet/xDSL supported

Others

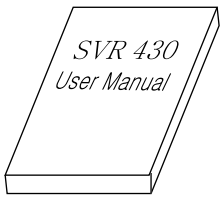
- Simple firmware upgrade using USB memory.
- Up to 4 channel voice recording in real time – selectable.
- Convenient control of 16 units using one remote control.
- VGA output supported (option).
- Languages for menus – selectable.

2.2 Configuration

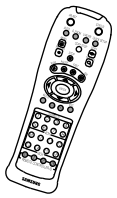
The SVR 430 package contains the main unit and its components as specified below. When you purchase the unit, please check to ensure the components specified below are included. If any components are missing, please contact your local vendor.

SVR 430 Main Unit

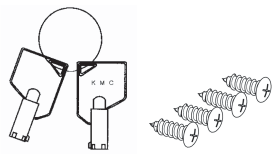
1. Network Viewer Program CD



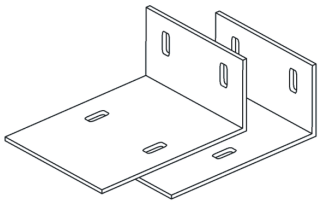
2. User Manual



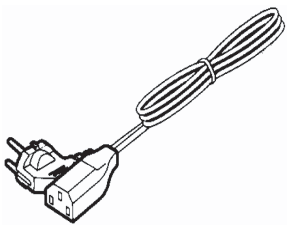
3. Remote Control



4. Removable HDD Rack Key and Screws



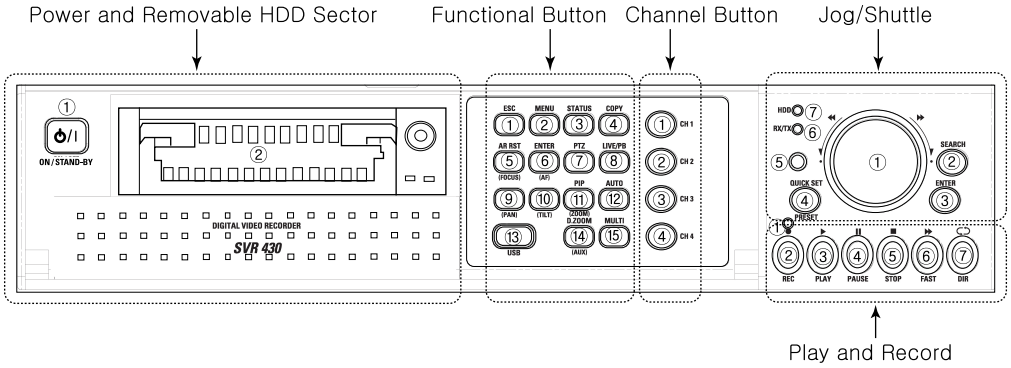
5. Rack Mount



6. Power Cable

2.3 Names and Functions of Each Part

2.3.1 Control Panel on the front



■ Power and Removable HDD Sector

Button Names	Functions
① Power Button	Power On/Off.
② Removable HDD Rack / CD–RW	Installs the removable HDD rack or CD-RW for backup. Functional Button Page.

■ Functional Button

Button Names	Functions
① ESC	Goes to the previous menu.
② MENU | ▲	Sets the menu, moves the cursor upward, and pages.
③ STATUS	Displays the system setting status.
④ COPY	Displays the copy menu. Saves the data at the preset time in R-HDD or CD-RW. Saves the pause images in the Memory Stick via USB.
⑤ AR.RST | ◄ | (FOCUS)	Adjusts the focus of PTZ camera, releases alarms when the alarms are occurred and moves the cursors and pages to the left and right.
⑥ ENTER | (AF)	Uses for automatic focusing in the PTZ mode and selection of values.
⑦ PTZ | ►	Selects the PTZ mode, moves the cursor to the right, and pages.
⑧ LIVE/PB	Switches from a live screen to a playback screen.
⑨ ▼ | (PAN)	Adjusts the Pan in the PTZ mode and reduces values.
⑩ ▼ | (TILT)	Moves the cursor downward and pages and adjusts the Tilt in the PTZ mode.
⑪ PIP | ▲ | (ZOOM)	Selects the PIP function, increases values, and adjusts the Zoom in the PTZ mode.
⑫ AUTO	Starts or releases the Auto Screen Display Switching.
⑬ USB	Port to connect the USB memory.
⑭ D.ZOOM | (AUX)	This button is used for the Digital Zoom function.
⑮ MULTI	This button is to view the quad screen.

■ Channel Button

Button Names	Functions
① CH1	Displays the full screen of the Channel 1.
② CH2	Displays the full screen of the Channel 2.
③ CH3	Displays the full screen of the Channel 3.
④ CH4	Displays the full screen of the Channel 4.

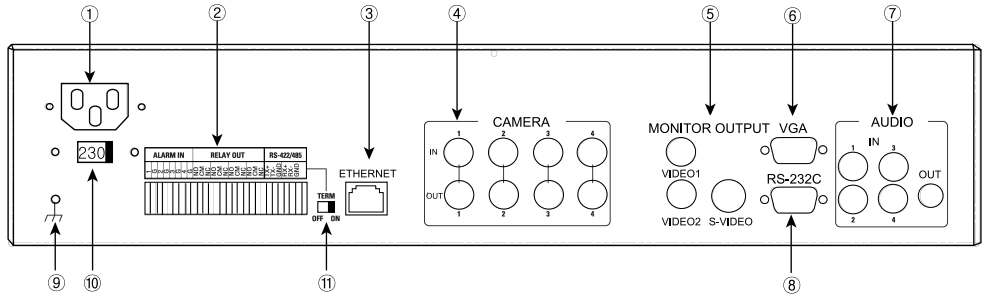
■ Jog/Shuttle Page

Button Names	Functions
① Shuttle Ring | Jog Dial	Adjusts the setting values for still image search or menus during the Pause state and increases or decreases the direction and speeds of playback.
② SEARCH	Selects the Data Search Mode.
③ ENTER	Saves or executes the selection.
④ QUICK SET | PRESET	Selects the preset in the PTZ Mode and the Quick Set.
⑤ Remote Control Sensor	Receives signals.
⑥ RX/TX LED	Indicates the network connection.
⑦ HDD LED	Indicates the operation of the HDD.

■ Play and Record

Button Names	Functions
① REC LED	Indicates the recording process.
② REC(●)	Starts or stops the Manual Mode Recording.
③ PLAY(►)	Starts playback.
④ PAUSE(▮▮)	Pauses playback.
⑤ STOP(■)	Stops the playback mode and returns to the Live Screen Mode.
⑥ FAST(▶▶)	Plays faster than the normal playback speed.(2×, 4×, 8×, MAX)
⑦ DIR(⟲)	Changes the playback direction.

2.3.2 Rear Connection Terminals

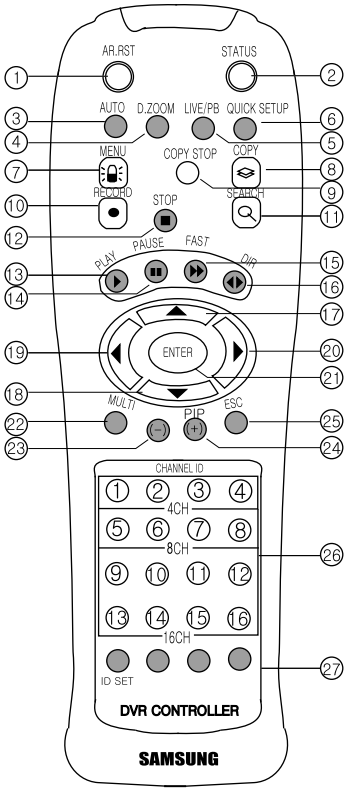


No.	Input/Output Terminal Names	Functions
①	POWER IN	This terminal is the socket for the AC115V/AC230V power cord.
②	ALARM IN	This terminal is for the external alarm sensor input.
	RELAY OUT	This terminal is for the relay output.
	RS–422/485	This terminal is for RS–422/485.
③	ETHERNET	This terminal is to connect to LAN.
④	CAMERA IN	This terminal is to connect BNC(4) for the image input of a camera.
	CAMERA OUT	This terminal is to connect BNC(4) for the image output of a camera.
⑤	VIDEO 1	This terminal is to connect BNC for the external device output.
	VIDEO 2	This terminal is to connect BNC for the external device output.
	S–VIDEO	This terminal is to connect S-Video for the external device output.
⑥	VGA	This terminal is the output port for VGA monitoring.
⑦	AUDIO IN	This terminal is for the audio input .
	AUDIO OUT	This terminal is for the audio output.
⑧	RS–232C	This terminal is for RS–232C(Standby terminal).
⑨	GROUND	This terminal is to ground the DVR main unit and the external device.
⑩	Power Changeover Switch	This switch is for changeover between AC115V and AC230V.
⑪	TERM	This switch is for the RS-422/485 terminating resistence.

⚠ Note

See Paragraph 3 - How to Install and Paragraph 5 - How to Use for more details about installation and operation.

2.3.3 Remote Controller



Button Names	Functions
① AR.RST	Releases alarms if they have occurred.
② STATUS	Displays the system setting status.
③ AUTO	Starts the Auto Screen Display Switching.
④ D.ZOOM	Executes the Digital Zoom.
⑤ LIVE/PB	Switches the Live/Playback Screen.
⑥ QUICK SETUP	Quick setup.
⑦ MENU	Displays the setting menu.
⑧ COPY	Displays the Copy menus and saves still images through the USB.
⑨ COPY STOP	Stops the Copy function.
⑩ RECORD (●)	Starts or stops general recording.
⑪ SEARCH	Displays the Search Menu.
⑫ STOP (■)	Release the Playback Mode.
⑬ PLAY (►)	Plays.
⑭ PAUSE (▮▮)	Pauses.
⑮ FAST (▶▶)	Fast playback.
⑯ DIR (◄►)	Switches the direction of playback (forward or reverse).
⑰ (▲)	Moves the cursor upward on the Setting Menu.
⑱ (▼)	Moves the cursor downward on the Setting Menu.
⑲ (◄)	Moves the cursor to the left on the Setting Menu.
⑳ (►)	Moves the cursor to the right on the Setting Menu.
㉑ ENTER	Selects and applies the setting values.
㉒ MULTI	Selects the split screens (Monitoring Screen).
㉓ (–)	Reduces the setting values and moves downward.
㉔ PIP / (+)	Views the picture in picture, increases the setting values and moves upward.
㉕ ESC	Exits from the menu.
㉖ Channel Buttons	Selects the camera channel.
㉗ Remote Controller ID	Selects the remote controller ID. (See Paragraph 4.10.4 - How to Set Remote Controller IDs).

2.4 Unit Specification

■ System

Items	Specification
Processor	32bit RISC
Operating System(O/S)	Imbedded Linux
Compression Method	MPEG–2

■ Video

Items	Specifications
Input Method	Composite Input 4-Channel
Video Input Level	1.0 Vp-p, Composite
Live Screen Display Speed	NTSC: NTSC: 120 Frames/Sec PAL: 100 Frames/Sec
Live Screen Digital Memory	NTSC: 720 (W) × 480 (H) Pixels for the full screen. PAL: 720 (W) × 576 (H) Pixels for the full screen 8bit Brightness (256 Gray Scales) 24bit Colors (160,000 Colors)
Monitor Output	1.0Vp-p Composite, 75Ω Y/C Output Loop(BNC) Output
VGA Output (PC Monitor)	RGB Output(Non Interlaced Scan)
PIP Screen	PIP Screen Size: 160×120 PIP Screen Layout: mall live screen in the full live screen

■ Audio

Items	Specification
Audio	4–Channel Audio Input
Microphone Input Level	10mV / 600Ω
Line Input Level	1.0V / 20kΩ
Line Output Level	1.0V / 1kΩ
Storage Method	PCM Method

■ Alarms

Items	Specification
Input	4 Channels
Output	4 Relay Output (Video Loss, Power Off, Motion Detect, Alarm), user configurable

■ Remote Control

Items	Specification
Infrared LED	Up to 5m

■ Recording

Items	Specification
Maximum Number of Frames/Sec (Resolution)	NTSC(640×480): 30 Frames/Sec NTSC(640×240): 60 Fields/Sec NTSC(320×240): 120 Frames/Sec PAL(640×576): 25 Frames/Sec PAL(640×288): 50 Fields/Sec PAL(320×288): 100 Frames/Sec
Recording Method	3 Types of Recording Modes: General, Schedule, Event
Pre-Event Recording	Within 5 seconds per channel (one frame/sec/channel recording requirement :Event Recording Mode)
Image Quality	3-Stage Image Quality: User Configurable

⚠ Note

- Countries using NTSC: USA, Canada, Japan, Korea, Taiwan, Mexico, etc.
- Countries using PAL: Australia, Austria, Belgium, China, Denmark, Finland, Germany, UK, Netherlands, Italy, Kuwait, Malaysia, New Zealand, Singapore, Sweden, Spain, Switzerland, Thailand, Norway, etc.

■ HDD

Items	Specification
Maximum Number of Attachment	2 (including a removable HDD)
Basic Supply	1
HDD Type	EIDE(ULTRA DMA)
Minimum Rate	5400rpm
Recommended Units	Maxtor/Samsung Electronics' Series

⚠ Note

We recommend the models described below among Maxtor/Samsung Electronics' HDD series.

	Model	HDD Capacity	Buffer
Maxtor	4R080L0	80GB	2MB
	4R120L0	120GB	2MB
	4R160L0	160GB	2MB
	5A250J0	250GB	2MB
SAMSUNG	SV1203N	120GB	2MB

■ Backup

Items	Specification
Digital Backup (option)	Removable HDD, USB Memory, CD–RW

■ Search and Playback

Items	Specification
Search Mode	Search by Time: Year, Month, Date, Hour, Minute, Second Search by Channel: per channel Search by HDD: Fixed 1.2 or R–HDD Search by Event: Alarm, Motion Detect, Video Loss
Log File	Power On/Off, Recording Start/Stop, Information Display
Speed and Direction of Playback	Forward and Reverse
Fast Search	Fast Rewind(×2, ×4, ×8, Max), Rewind (×2, ×4, ×8, Max)
Pause and Frame Playback	Pause of playback, playback by frame in the Pause state

■ Password

Items	Specification
2-Stage Password	8-digit Password (including four numbers) Manager: Controls all functions Administrator: Controls all functions except the setting function. User: Access through Network

■ Network

Items	Specification
General	Live Screen: Monitoring Playback Screen: Search Menu Setting: Menu setting available Access Method: Dedicated Viewer Protocol: TCP/IP, DHCP, PPPoE Interface: Ethernet(10Mbps), xDSL Concurrent Users: Up to 4 users
PC Requirement	CPU: Pentium IV 1.2GHz or over (2.0GHz or over recommended) Memory: 256MB or over (512MB or over recommended) HDD: Minimum 10GB or over OS: Windows 2000 or over recommended Monitor: 1,024×768 Pixels LAN Interface: 10/100 Base–T (RJ–45)

■ Electrical Specification

Items	Specification
Power Supply	AC115V(AC90V ~ AC130V) or AC230V(AC180V ~ AC260V) : Selectable
Power Consumption	About 60W(when using one HDD) ※ Up to 65W for two HDDs in use

■ User Environment

Items	Specification
Operating Temperature	5°C ~ 40°C
Storage Temperature	–10°C ~ 60°C
Humidity	30% ~ 90% (without dewfall)

■ Exterior

Items	Specification
Material	Steel Case
Dimension	420(W) × 422(D) × 88(H) mm
Weight	About 6kg

■ Connection Terminals

Items	Specification
Video Input	BNC(4)
Loop Outpu	BNC(4)
Monitor Output	BNC(2)
	S–Video
VGA Output (PC Monitor)	15–Pin DSUB
Audio Jack	RCA Input (4), RCA Output (1)
USB Port	USB1.1 (Firmware Upgrade/Copy)
9-Pin DSUB	RS–232C(Standby terminal)
6-Pin Terminal Sector	RS–422/485(External Control, PTZ)
8-Pin Terminal Sector	Alarm Input Terminal
12-Pin Terminal Secto	Alarm Output Terminal (Video Loss, Power, Motion Detect, Alarm: CM, NO and NC per Output)
Termination Switch (TERM)	RS–422/485 Terminal Resistance Switch
LAN Input	RJ–45(Network, Firmware Upgrade)
Power Changeover Switch	AC115V, AC230V Power Changeover Switch
AC Input Terminal	AC Power Input Terminal
Ground	Ground Terminal

■ Accessories

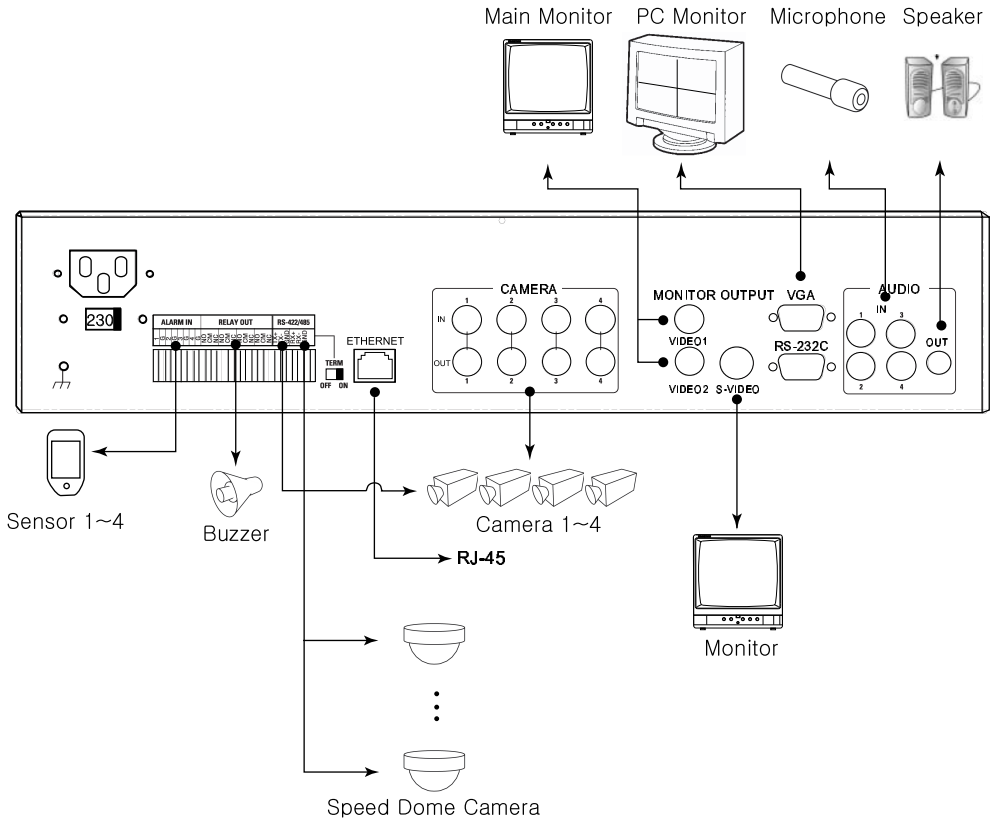
Items	Specification
Accessories to be supplied	Network Viewer Program CD
	User Manual
	Remote Control
	Removable HDD Rack Key and Screws
	Rack Mount
	Power Cable

Chapter 3

How to Install

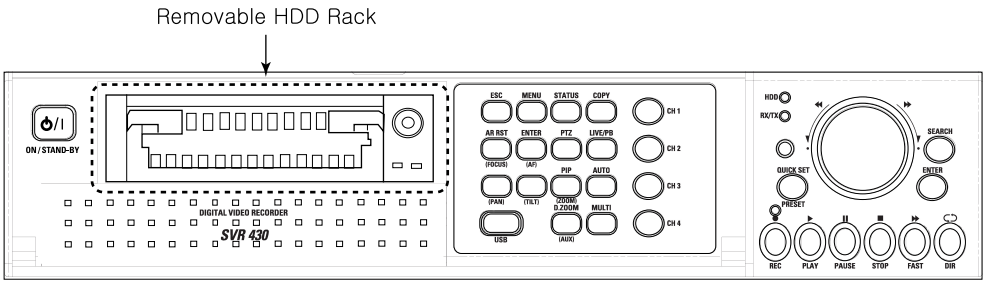
3.1 How to Connect All Parts

The connection layout for the SVR 430, the monitor, CCTV and external devices are described below.



3.2 Detailed Connection

3.2.1 How to Install Removable HDD Rack



1. Disconnect the power of the unit for installation of the removable HDD.
2. Be sure to set the removable HDD to the **Slave Mode** by adjusting the jumper setting (The HDD may be damaged if it is set to the Master Mode).See the instruction on the HDD to adjust the jumper setting of the HDD.
3. For inserting the removable HDD on the HDD rack, push the removable HDD until you hear the 'Click' sound.
4. After inserting the removable HDD, put the key into the hole on the front of the HDD rack and turn the key in a counterclockwise direction to secure the HDD rack. Next, turn the power of the unit on.
5. After the power is on, check whether the Green LED on the removable HDD is lit. If the Green LED is OFF, repeat from Step 1 to 3.

⚠ Caution — Be sure to turn the power of the main unit off for inserting and removing the removable HDD.

3.2.2 Rack Mount

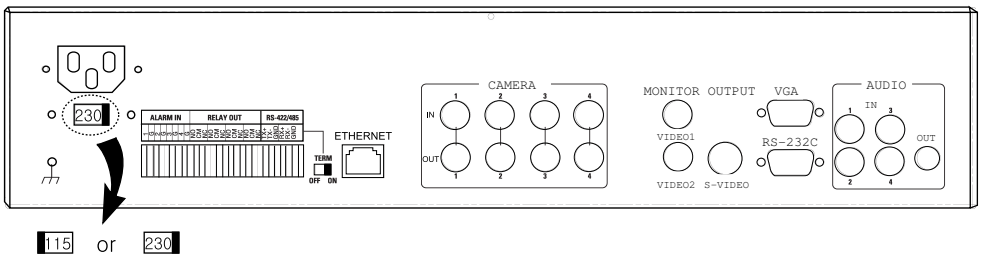
The rack mount shall be mounted before installation of the unit. The rack mount is mounted in accordance with the procedure below.

1. Mount the rack mount on the unit.

2. Insert the unit on the 19" rack.

3.2.3 Power

1. Before power connection, select the voltage according to the requirement below. The factory default value is 230V.



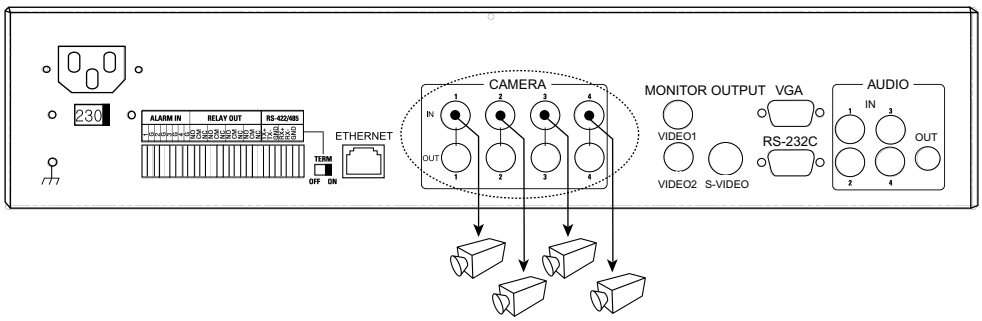
Caution

- Do not insert 230V when the Power Changeover Switch is set at 115V. (For operations at 230V, be sure that the Power Changeover Switch is set at 230V).
- Do not insert 115V when the Power Changeover Switch is set at 230V. (For operations at 115V, be sure that the Power Changeover Switch is set at 115V).

2. Check the Power Changeover Switch and connect the power cable.

3.2.4 Camera

SVR 430 can accommodate up to 4 cameras for CCTV.
Connect the BNC terminal of each camera to the **CAMERA IN** terminal of the unit.



Caution

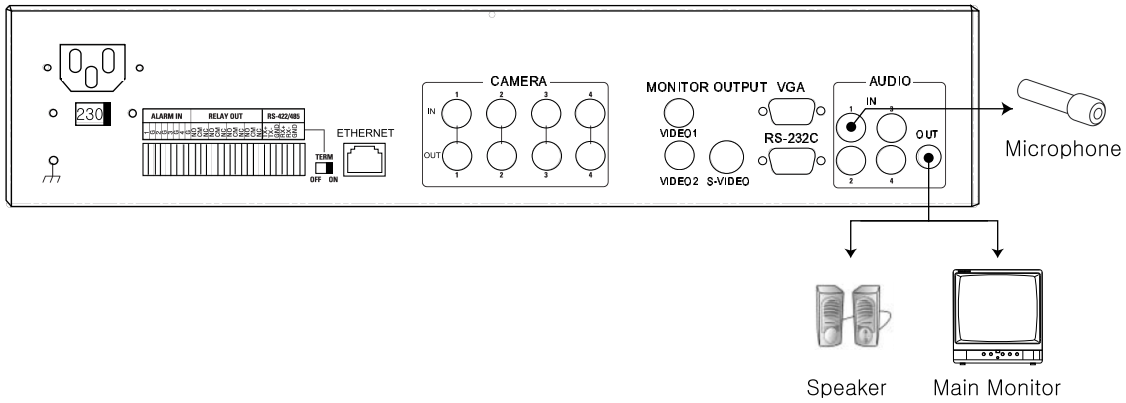
- If the BNC terminal is connected only to the CAMERA IN terminal, the terminal resistance of 75Ω is internally set.
- If the BNC terminal is connected both to the CAMERA IN and CAMERA OUT terminals, terminal resistance in the receiving device must be set to 75Ω .
- The CAMERA OUT terminal is the loop output for the camera input. Thus, it needs to be connected only when there is a video input in the CAMERA IN terminal.
- If the cable to the CAMERA OUT terminal remains idle without connection to other external devices, it can degrade image qualities.
- Video input standards (NTSC/PAL) are automatically identified when you press the ON/STAND–BY button of the unit. However, if you connect the CCTV camera with different video input standard to the CAMERA IN terminal while using the unit, the video input standard is recognized only when you restart the unit.

Note

Images from each camera are simultaneously displayed on the external devices connected to the **CAMERA OUT** terminal on the rear of the unit.

3.2.5 Audio Connection

The Samsung SVR 430 can save audio information. For storage or output of audio information, it is required to connect the relevant devices.



Audio Input

Connect the RCA Audio Input Terminal (camera with built-in microphone, etc.) to the **AUDIO IN** terminal on the rear of the unit.

Note

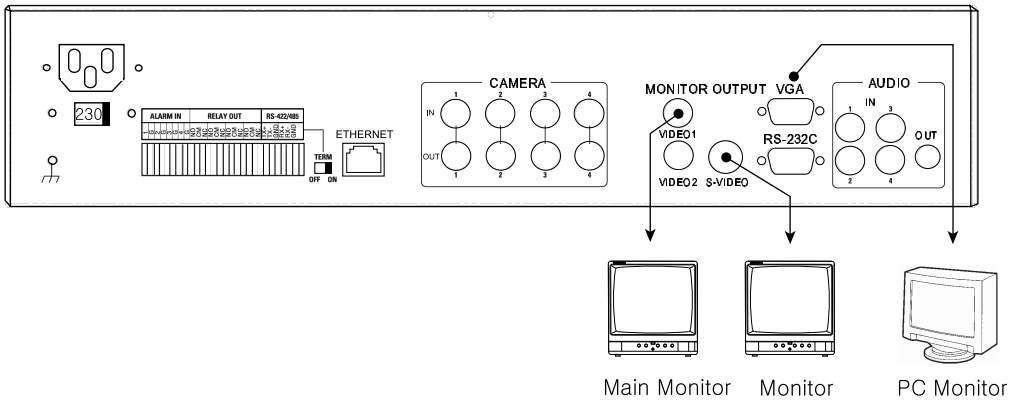
- For audio input setting, set **[Audio]** to **[ON]** on the Recording Setting on the Setting Menu.See Paragraph 4.6 - Recording Setting for details.
- If audio is saved during recording, you can listen to the audio contents during playback regardless of the Split Screen Mode.

Audio Output

Connect the RCA Audio Output Terminal (monitor with a speaker, etc.) to the **AUDIO OUT** terminal on the rear of the unit.

3.2.6 Monitor

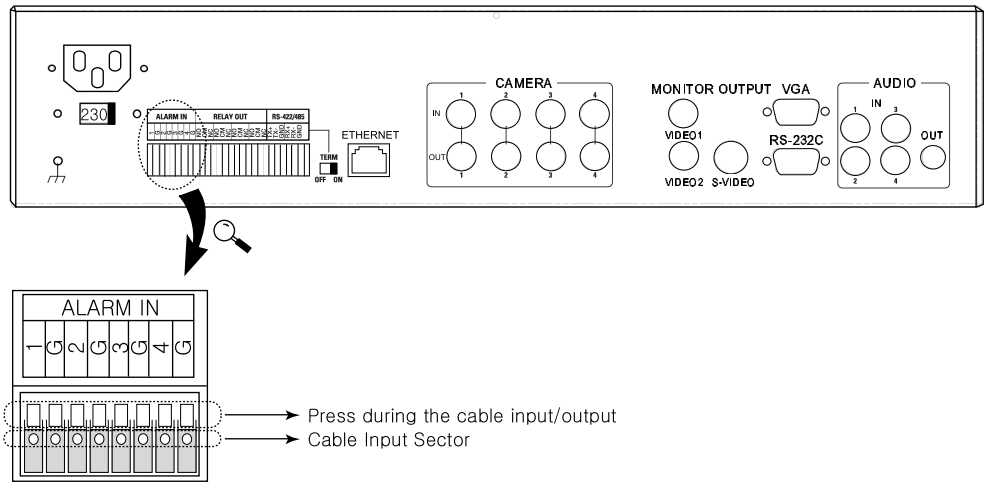
Connect the **VIDEO 1** terminal of the **MONITOR OUTPUT** and the BNC terminal of the monitor using the BNC cable for video data output to the main monitor. Total Monitor Output Terminals are 4 (2 BNCs, 1 S-VIDEO and 1 VGA) and accommodate up to three auxiliary monitors.



3.2.7 External Connector

Alarm Input(ALARM IN)

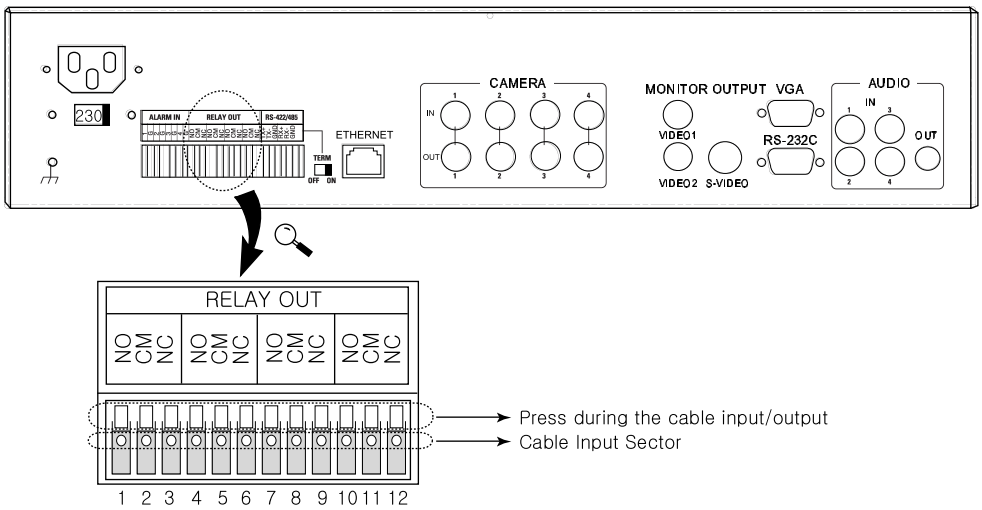
This external sensor connection terminal transfers data from the connected sensor or device to the unit.



No.	Description
1, 2, 3, 4	External Alarm Input.
G, G, G, G	Common Ground

Relay Output (RELAY OUT)

This Alarm Output terminal uses the contact relay for the alarm output to the external devices.You can select NO (Normal Open), CM (Common) or NC (Normal Close) for connection according to the contact point status.



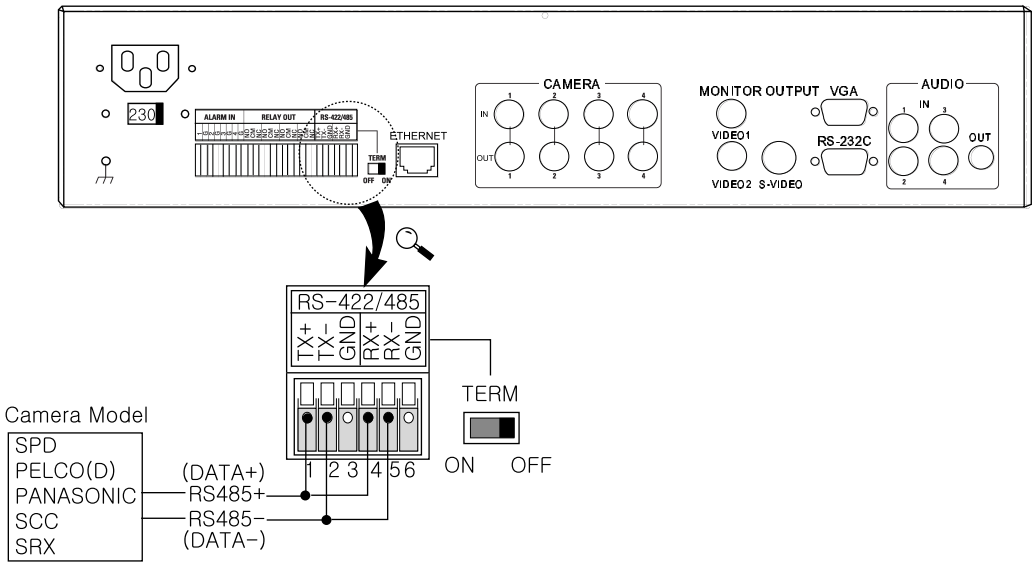
No.	Description		No.	Description	
1	NO	Relay 1	7	NO	Relay 3
2	CM		8	CM	
3	NC		9	NC	
4	NO	Relay 2	10	NO	Relay 4
5	CM		11	CM	
6	NC		12	NC	

⚠ Note

The operation of each relay output can be defined by a combination of Video Loss, Motion Detect, Sensor, and Power in the Event Setting on the Main Menu. See Paragraph 4.7.4 - Relay Setting for details.

External Control Device Terminal(RS–422/485)

This terminal is connected to external control devices.The switch marked as TERM turns on and off the termination resistance of RS–422/485 communication device.



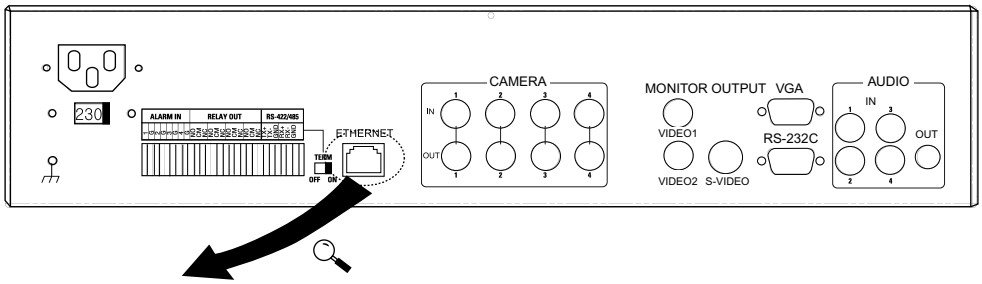
No.	Description	
Classification	RS–422	RS–485
1	TX+ (+Transmit Data)	Data+
2	TX– (–Transmit Data)	Data–
3	GND (Ground)	GND (Ground)
4	RX+ (+Receive Data)	Data+
5	RX– (–Receive Data)	Data–
6	GND (Ground)	GND (Ground)

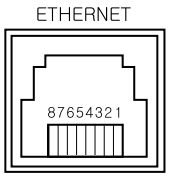
⚠ Caution

When using RS–485, connect TX+ and RX+ to Data+ and connect TX– and RX– to Data–.

LAN Connection(Ethernet 10 Base–T)

This port is to connect to a network.

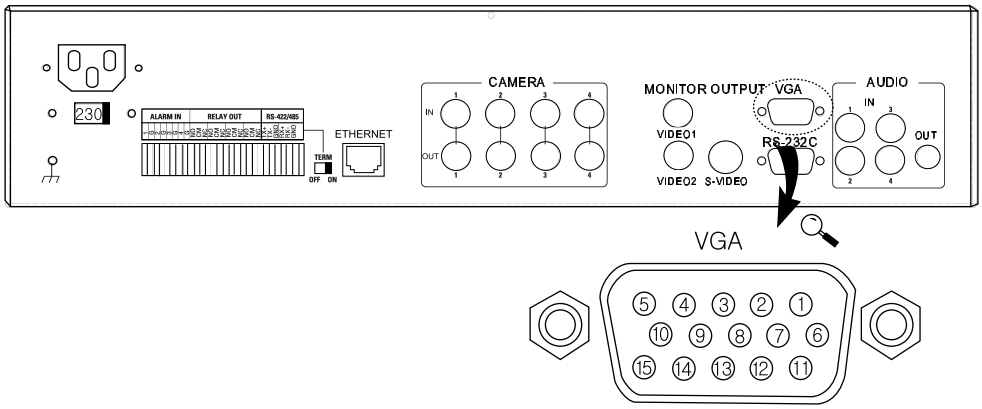




No.	Description	No.	Description
1	TX+ (Transmit Data)	5	N/C (No connection)
2	TX– (Transmit Data)	6	RX– (Receive Data)
3	RX+ (Transmit Data)	7	N/C (No connection)
4	N/C (No connection)	8	N/C (No connection)

Monitor Output(VGA)

This is the output connector for VGA Monitor.

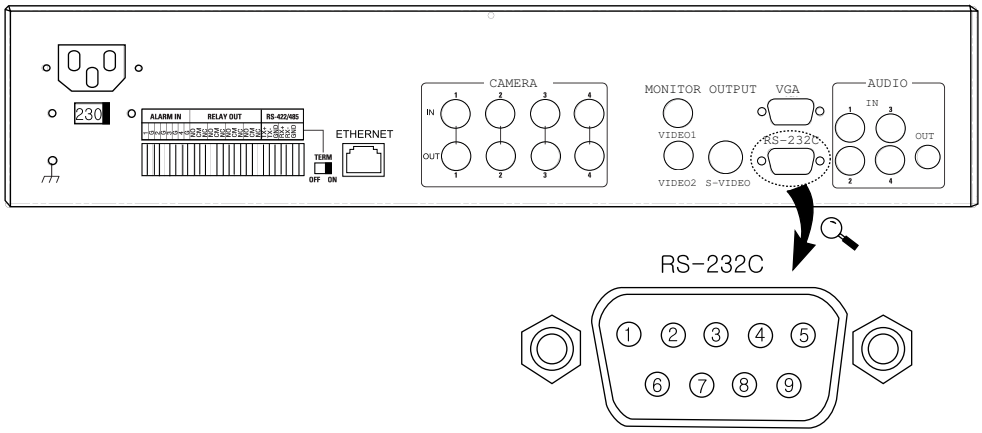


No.	Description	No.	Description
1	Red Signa(75Ω, 0.7Vp–p)	9	N/C(No connection)
2	Green Signal(75Ω, 0.7Vp–p)	10	Ground
3	Blue Signal(75Ω, 0.7Vp–p)	11	Ground
4	N/C(No connection)	12	N/C(No connection)
5	Ground	13	HSYNC (Horizontal Synchronization)
6	Ground	14	VSYNC(Vertical Synchronization)
7	Ground	15	N/C(No connection)
8	Ground		

⚠ Caution — For the regions using PAL, Some TFT LCD monitors are not supported.

Communication Port(RS–232C)

This port is connected to control the unit through the connection with a PC.



No.	Description	No.	Description
1	N/C(No connection)	6	N/C(No connection)
2	RxD(Receive Data)	7	N/C(No connection)
3	TxD(Transmit Data)	8	N/C(No connection)
4	N/C(No connection)	9	N/C(No connection)
5	GND(Ground)		

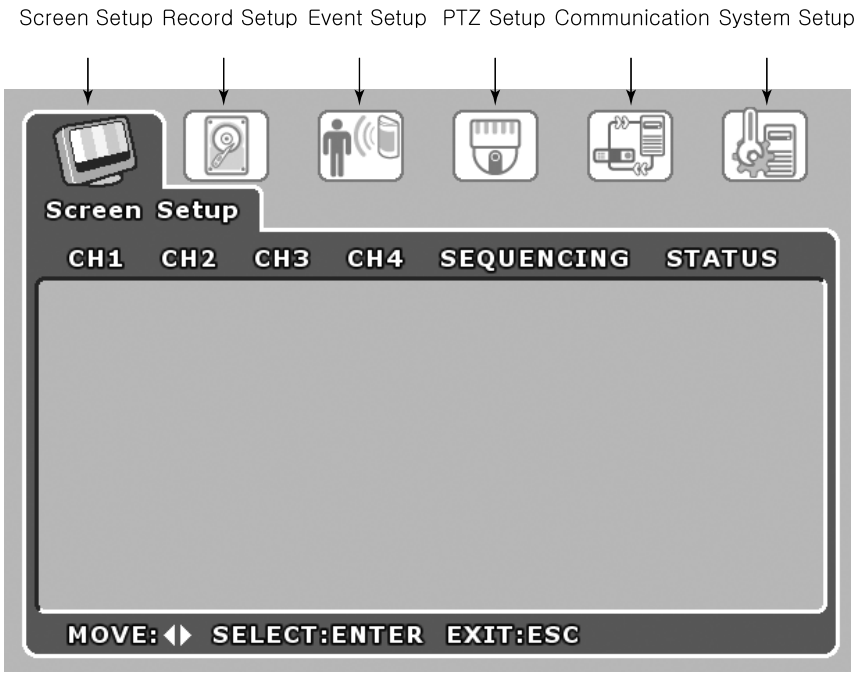
Chapter 4

How to Set

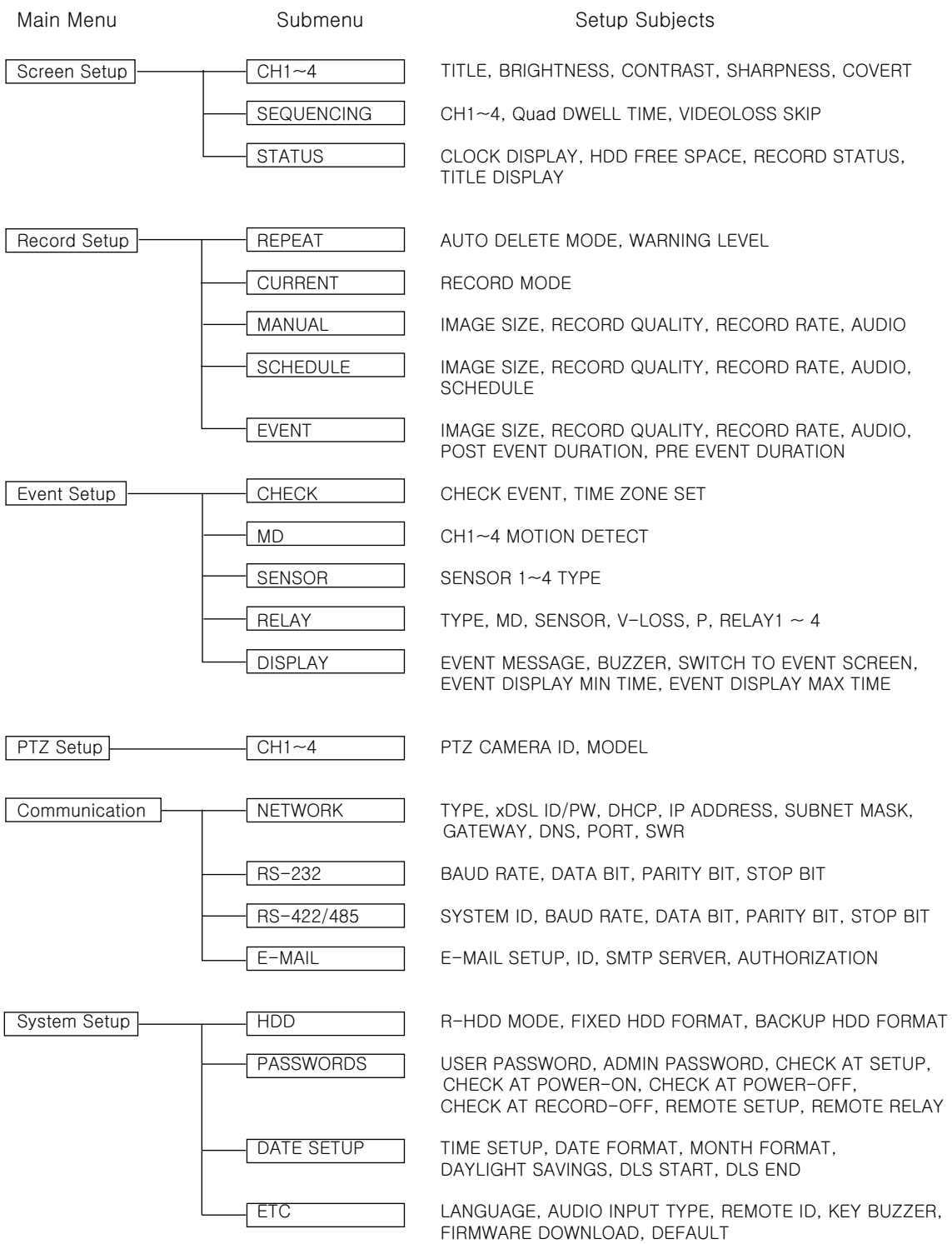
4.1 Menu Configuration

Press a function button on the front side of the unit or the MENU button on the remote control, and the menu for a variety of settings related to the unit will appear.The menu is configured as described below.

⚠ Note — The factory default language is Korean. See Paragraph 4.10.4 - Other Settings for language setup.


Screen Setup Record Setup Event Setup PTZ Setup Communication System Setup
Screen Setup
CH1 CH2 CH3 CH4 SEQUENCING STATUS
MOVE: SELECT:ENTER EXIT:ESC

The menu is configured as illustrated below. See Paragraph 4.2~ 4.10 for more details.


Main Menu
Submenu
Setup Subjects
Screen Setup
CH1~4
TITLE, BRIGHTNESS, CONTRAST, SHARPNESS, COVERT
SEQUENCING
CH1~4, Quad DWELL TIME, VIDEOLOSS SKIP
STATUS
CLOCK DISPLAY, HDD FREE SPACE, RECORD STATUS, TITLE DISPLAY
Record Setup
REPEAT
AUTO DELETE MODE, WARNING LEVEL
CURRENT
RECORD MODE
MANUAL
IMAGE SIZE, RECORD QUALITY, RECORD RATE, AUDIO
SCHEDULE
IMAGE SIZE, RECORD QUALITY, RECORD RATE, AUDIO, SCHEDULE
EVENT
IMAGE SIZE, RECORD QUALITY, RECORD RATE, AUDIO, POST EVENT DURATION, PRE EVENT DURATION
Event Setup
CHECK
CHECK EVENT, TIME ZONE SET
MD
CH1~4 MOTION DETECT
SENSOR
SENSOR 1~4 TYPE
RELAY
TYPE, MD, SENSOR, V-LOSS, P, RELAY1 ~ 4
DISPLAY
EVENT MESSAGE, BUZZER, SWITCH TO EVENT SCREEN, EVENT DISPLAY MIN TIME, EVENT DISPLAY MAX TIME
PTZ Setup
CH1~4
PTZ CAMERA ID, MODEL
Communication
NETWORK
TYPE, xDSL ID/PW, DHCP, IP ADDRESS, SUBNET MASK, GATEWAY, DNS, PORT, SWR
RS-232
BAUD RATE, DATA BIT, PARITY BIT, STOP BIT
RS-422/485
SYSTEM ID, BAUD RATE, DATA BIT, PARITY BIT, STOP BIT
E-MAIL
E-MAIL SETUP, ID, SMTP SERVER, AUTHORIZATION
System Setup
HDD
R-HDD MODE, FIXED HDD FORMAT, BACKUP HDD FORMAT
PASSWORDS
USER PASSWORD, ADMIN PASSWORD, CHECK AT SETUP, CHECK AT POWER-ON, CHECK AT POWER-OFF, CHECK AT RECORD-OFF, REMOTE SETUP, REMOTE RELAY
DATE SETUP
TIME SETUP, DATE FORMAT, MONTH FORMAT, DAYLIGHT SAVINGS, DLS START, DLS END
ETC
LANGUAGE, AUDIO INPUT TYPE, REMOTE ID, KEY BUZZER, FIRMWARE DOWNLOAD, DEFAULT

4.2 Default Setup

The SVR 430 is delivered to customers with the factory default values as described below. To initialize the menu setup to the factory default values, select **[YES]** for the **[DEFAULT]** item in **[SYSTEM SETUP]**–**[ETC]** on the menu. Then, all setting values changed by users are initialized to the default values as illustrated below.

■ Screen Setup

Main Menu	Submenu	DEFAULT
CH1 ~ 4	TITLE	1, 2, 3, 4
	BRIGHTNESS	0
	CONTRAST	0
	SHARPNESS	1
	COVERT	OFF
SEQUENCING	CH1 ~ 4	3sec
	Quad DWELL TIME	3sec
	VIDEOLOSS SKIP	OFF
STATUS	CLOCK DISPLAY	ON
	HDD FREE SPACE	ON
	RECORD STATUS	ON
	TITLES DISPLAY	ON

■ Record Setup

Main Menu	Submenu	DEFAULT
REPEAT	AUTO DELETE MODE	ON
	WARNING LEVEL	5%
CURRENT	RECORD MODE	MANUAL
MANUAL	IMAGE SIZE	640×240
	RECORD QUALITY	MID
	RECORD RATE	3 3 3 3
	AUDIO	OFF
SCHEDULE	IMAGE SIZE	640×240
	RECORD QUALITY	MID
	RECORD RATE	3 3 3 3
	AUDIO	OFF
	SCHEDULE	-
EVENT	IMAGE SIZE	640×240
	RECORD QUALITY	MID
	RECORD RATE	3 3 3 3
	AUDIO	OFF
	POST EVENT DURATION	10sec
	PRE EVENT DURATION	1sec

■ Event Setup

Main Menu	Submenu	DEFAULT
CHECK	CHECK EVENT	OFF
	TIME ZONE SET	
MD	CH1 ~ 4 MOTION DETECT	ON
SENSOR	SENSOR1 ~ 4 TYPE	NO
RELAY	-	-
DISPLAY	EVENT MESSAGE	ON
	BUZZER	OFF
	SWITCH TO EVENT SCREEN	OFF
	EVENT DISPLAY MIN TIME	3sec
	EVENT DISPLAY MAX TIME	5sec

■ PTZ Setup

Main Menu	Submenu	DEFAULT
CH1 ~ 4	PTZ CAMERA ID	0
	MODEL	NONE

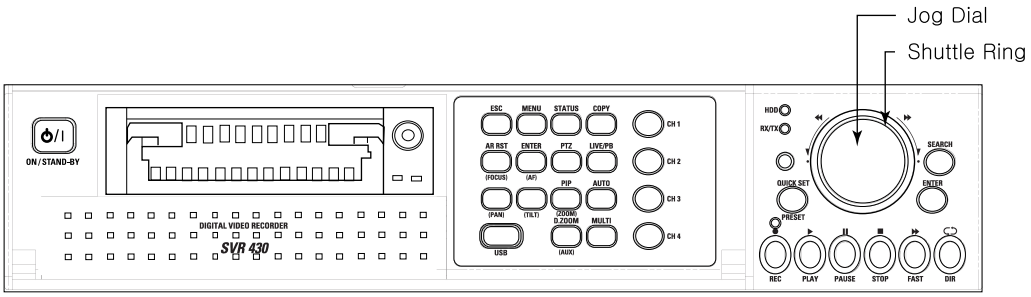
■ Communication

Main Menu	Submenu	DEFAULT
NETWORK	TYPE	Ethernet
	xSDL ID, PW	svr430, svr430
	DHCP	OFF
	IP ADDRESS	000.000.000.000
	SUBNET MASK	000.000.000.000
	GATEWAY	000.000.000.000
	DNS	000.000.000.000
	PORT	3495
RS232	BAUD RATE	9600
	DATA BIT	8
	PARITY BIT	NONE
	STOP BIT	1
RS422/485	SYSTEM ID	1
	BAUD RATE	9600
	DATA BIT	8
	PARITY BIT	NONE
	STOP BIT	1

■ System Setup

Main Menu	Submenu	DEFAULT
HDD	FIXED-HDD FORMAT	
	BACKUP-HDD FORMAT	
	R-HDD MODE	BACKUP
PASSWORDS	USER PASSWORD	
	ADMIN PASSWORD	
	CHECK AT SETUP	OFF
	CHECK AT POWER-ON	OFF
	CHECK AT POWER-OFF	OFF
	CHECK AT RECORD-OFF	OFF
	REMOTE SETUP	ENABLE
DATE SETUP	TIME SETUP	
	DATE FORMAT	DD/MM/YY
	MONTH FORMAT	TYPE1
	DAYLIGHT SAVINGS	OFF
	DST START	April/04/First/Sunday
		2004/04/04 02:00>03:00
	DST END	Oct./24/Last/Sunday
		2004/10/24 02:00>01:00
ETC	LANGUAGE	Korean
	AUDIO INPUT TYPE	LINE
	REMOTE ID	ALL
	KEY BUZZER	ON
	FIRMWARE DOWNLOAD	
	DEFAULT	

4.3 How to Use Jog/Shuttle



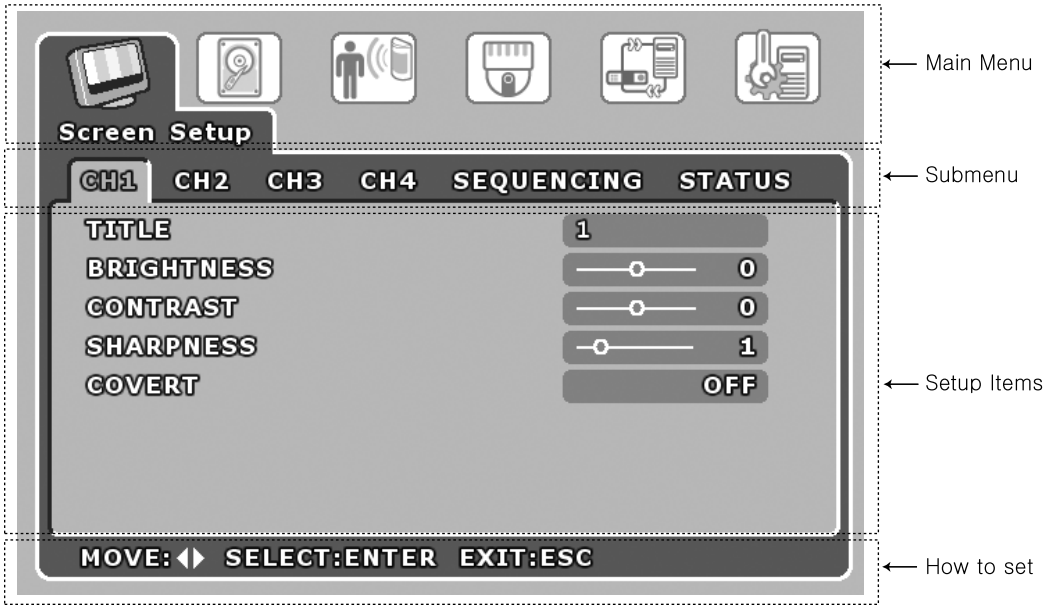
- How to Change and Select Menus using Jog/Shuttle
  - Turn the Shuttle Ring clockwise to move the cursor to the right. When the cursor reaches the right end of a line, it moves downward to the next line.(To move the cursor to the next line, turn the Shuttle Ring clockwise to end.)
  - Turn the Shuttle Ring counterclockwise to move the cursor to the left. When the cursor reaches the left end of a line, it goes to the left of the next line. (To move the cursor to the left of the next line, turn the Shuttle Ring counterclockwise to end.)
  - When the cursor reaches the desired position, set the values on the menu using the Jog Dial.
- How to Change and Select Menus using the Arrow Button
  - ◄ ►: Moves the cursor to the left or right.
  - ▲ ▼: Moves the cursor up or down.
  - ⧨⧩: Increases or decreases setting values.

⚠ Note

See Paragraph 2.3.1 - Front Control Panel for names and functions of the Jog/Shuttle Ring.

4.4 Menu Screen Setup

Select the MENU button on the remote control or the main unit, and the following Menu Screen appears.



Note — Press the MENU button, and the background screen is switched to the Split 4 screen.

- Main Menu: Select the Main Menu corresponding to each Tab.
- Submenu: Select the Submenu that can be set up on the Main Menu.
- Setup Items: Change the settings on the Submenu.
- How to Set: This message provides the guide for menu setup.
- It may take a little while for the recording setup. Then, please wait for a while.
- Except for the recording setup, setting changes are immediately applied.

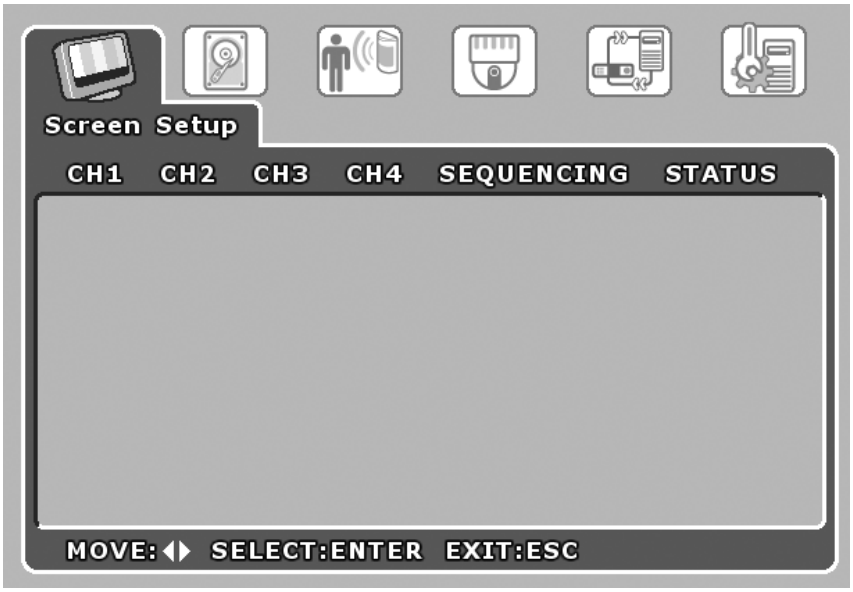
Operations

- Operate the unit using the buttons on the main unit.
  - Move between Menus to Left/Right: Press the Arrow ◄ ► buttons.
  - Select Menu: Press the ENTER button.
  - Change Setting Values: Turn the Jog Dial or press the ▼ ▲ buttons.
  - Exit from Menu Screen: Press the ESC button.

- Operation using the Remote Control
  - Move between Menus to Left/Right : Press the Arrow ◄ ► buttons.
  - Select Menu: Press the ENTER button.
  - Change Setting Values: Press the (–) (+) buttons.
  - Exit from Menu Screen: Press the ESC button.

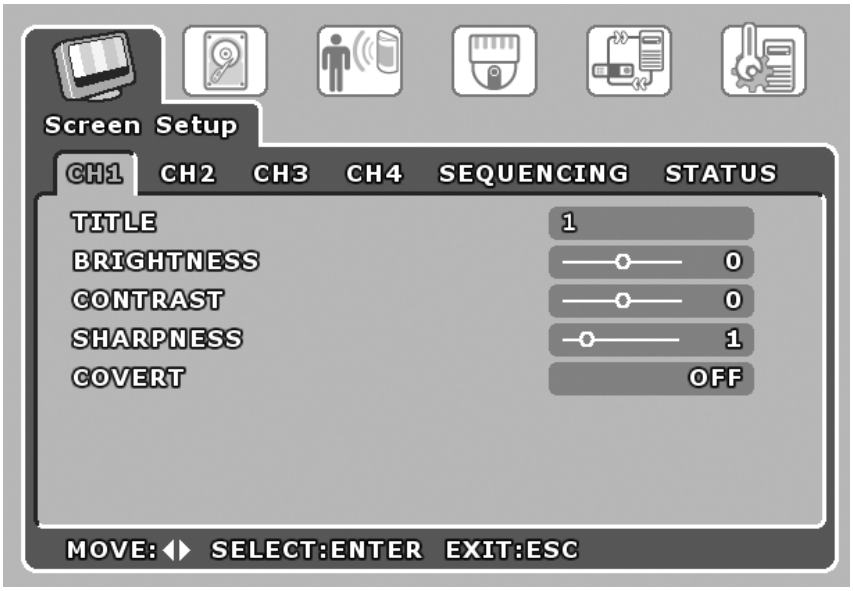
4.5 Screen Setup

Press the [MENU] button and select the Tab using the Left(◄)/Right(►) arrow button, and the submenu related to the live monitoring screen appears as illustrated below. Press [ENTER] and select the submenu using the Left(◄)/Right(►) arrow button. Next, press [ENTER] again, and you can select setup items by pressing the Up(▲)/Down(▼) button.



4.5.1 CH1 ~ CH4

Selects setup items related to channels such as channel titles or brightness.



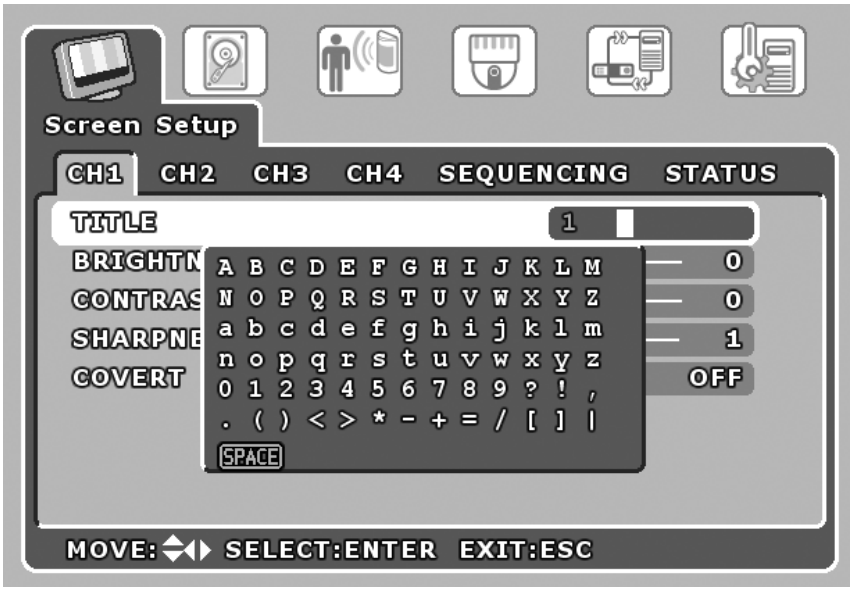
- Channel Titles: Titles can be individually set to each channel. Select the channel title and press ENTER. Then, the keyboard to enter the title is displayed as illustrated below. The positions of characters in the Channel Titles can be arranged using the Jog Dial.

  – After the cursor is moved, press the ENTER button to select the relevant character.

  – To exit from the Menu Setup, press the ESC button.

  – Press the Up/Down arrow buttons to move between character strings.

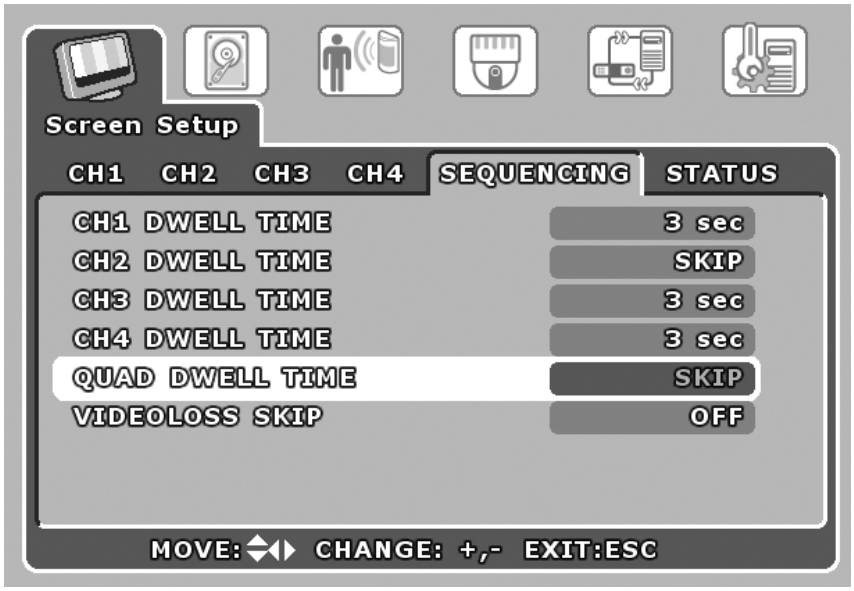
  – To insert spaces, move the cursor to SPACE on the screen and then press Enter on the remote control or the main unit.


Screen Setup
CH1 CH2 CH3 CH4 SEQUENCING STATUS
TITLE
1
BRIGHTN
CONTRAS
SHARPNE
COVERT
0
0
1
OFF
A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m
n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9 ? ! ,
. ( ) < > * - + = / [ ] |
SPACE
MOVE: SELECT:ENTER EXIT:ESC

- BRIGHTNESS: Adjusts the screen brightness by changing the values.
- CONTRAST: Adjusts the screen contrast by changing the values.
- SHARPNESS: Adjusts the screen sharpness by changing the values.
- COVERT: Doesn't display the video on the live screen while video recording and playback are enabled.

4.5.2 SEQUENCING

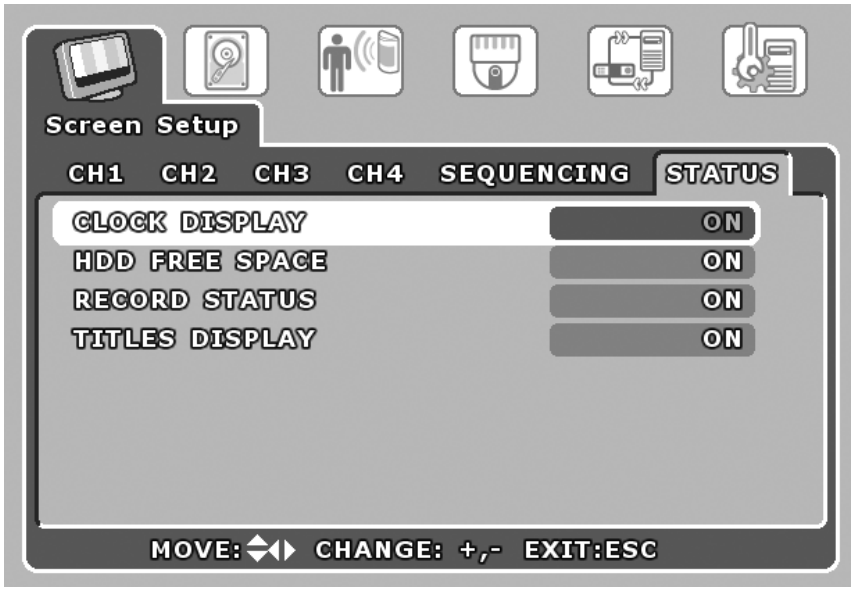
The live screens are automatically switched in the order of <CH1 → CH2 → CH3 → CH4 → Quad Dwell Time> at the predefined switching interval. The channel switching interval can be set from 1 up to 99 on the **[SEQUENCING]** menu. Any channels that are set to **[OFF]** are not displayed in the Auto Screen Display Switching Mode.


Screen Setup
CH1 CH2 CH3 CH4 SEQUENCING STATUS
CH1 DWELL TIME 3 sec
CH2 DWELL TIME SKIP
CH3 DWELL TIME 3 sec
CH4 DWELL TIME 3 sec
QUAD DWELL TIME SKIP
VIDEOLOSS SKIP OFF
MOVE: CHANGE: +,- EXIT:ESC

- CH1 ~ 4: Sets the screen display duration by channel.
- Quad DWELL TIME: Sets the duration of the Spilt 4 screen for four channels.
- VIDEOLOSS SKIP [OFF/ON]: With Videoloss Skip **[ON]**, channels without video input signals are automatically skipped and only channels with video input are displayed.

4.5.3 STATUS

Selects information to display on the live screens.



- CLOCK DISPLAY [ON/OFF]: With Clock Display **[ON]**, the current time is displayed on the live screens.
- HDD FREE SPACE [ON/OFF]: With HDD Free Space **[ON]**, the free space on the HDD for recording is indicated.
- RECORD STATUS [ON/OFF]: With Record Status **[ON]**, the recording status ([NNNN]) is displayed on the upper right corner of the screen during recording.

⚠ Note

See Paragraph 5.4 - Recording for more details about Recording Status Display.

- TITLES DISPLAY [ON/OFF]: With Titles Display **[ON]**, the titles of **[CH1** ~ **4]** set on the Channel Title submenu by uses are displayed on the live screens.

4.6 Record Setup

Press the MENU button and select the Tab using the Left(◄)/Right(►) button. Then, the submenu related to recording appears as illustrated below. Press ENTER and select the submenu using the Left(◄)/Right(►) button. Next, press ENTER again, and you can select setup items using the Up(▲)/Down(▼) button.

4.6.1 REPEAT

Monitoring screens can be recorded on the HDD and the storage capacities vary on HDD types mounted on the unit.

- AUTO DELETE MODE [ON/OFF]: Sets whether to repeat recording.
  - ON: If no storage spaces are left on the HDD, recording is continued by overwriting the oldest data.
  - OFF: If no storage spaces are left on the HDD, recording is stopped.
- WARNING LEVEL: When the remaining capacity of the HDD reaches the predefined percentage, a warning message is displayed to users.The warning level can be set from 1 to 10%, 5 ~ 10% in general.

4.6.2 CURRENT

Select one of three methods below to record monitoring screens.

- MANUAL: Immediate manual recording.
- SCHEDULE: Reserved recording.
- EVENT: Recording is triggered when a security device is opened or abnormal operation is detected. Events to trigger recording are described below.
  - Motion Detection: Any changes on a screen from a camera are treated as events.
  - Alarm by Sensor: Data from devices connected to ALARM IN terminals on the rear of the unit such as sensors are treated as events.
  - Videoloss: The cameras without video signals are treated as events.